

December 21, 2020

VIA E-FILING and COURIER

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

Re: In Re: Commission's Review of the Benefits and Costs of Net Metering Credit Calculation Pursuant to R.I. Gen. Laws § 39-26.4-3: Docket No. 5010

Dear Ms. Massaro:

On behalf of The Narragansett Electric Company d/b/a National Grid (the Company), enclosed for filing with the Rhode Island Public Utilities Commission (the Commission) please find the Company's responses to the sixth set of data requests issued by the Commission on December 7, 2020.

Consistent with the instructions issued by the Commission on March 16, 2020, and updated on October 2, 2020, this filing is being made electronically. Five (5) hard copies will be submitted to the Commission within twenty-four (24) hours, with two (2) hard copies being three-hole punched.

If you have any questions, please contact me at: 781-907-2126. Thank you for your time and attention to this matter.

Very truly yours,



Laura C. Bickel
RI Bar # 10055

Enclosures

cc: Docket No. 5010 Service List

Luly E. Massaro, Clerk

Docket No. 5010 -- In Re: Commission's Review of the Benefits and Costs of Net Metering
Credit Calculation

December 21, 2020

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Docket No. 5010 Service List as of 9/10/2020

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In Re: Commission's Review of the Benefits and Costs of Net Metering Calculation
Responses to Commission's Sixth Set of Data Requests
Issued on December 7, 2020

PUC 6-1

Request:

For each year dating back to 2011, please provide a table containing columns with the following information on National Grid's monthly Regional Network Load (against which ISO-NE PTF charges are assessed):

- a) National Grid's monthly Regional Network Load (RNL) for January (MW); and the date and hour of that year's peak January RNL.
- b) National Grid's monthly Regional Network Load (RNL) for February (MW); and the date and hour of that year's peak February RNL.
- c) National Grid's monthly Regional Network Load (RNL) for March (MW); and the date and hour of that year's peak March RNL.
- d) National Grid's monthly Regional Network Load (RNL) for April (MW); and the date and hour of that year's peak April RNL.
- e) National Grid's monthly Regional Network Load (RNL) for May (MW); and the date and hour of that year's peak May RNL.
- f) National Grid's monthly Regional Network Load (RNL) for June (MW); and the date and hour of that year's peak June RNL.
- g) National Grid's monthly Regional Network Load (RNL) for July (MW); and the date and hour of that year's peak July RNL.
- h) National Grid's monthly Regional Network Load (RNL) for August (MW); and the date and hour of that year's peak August RNL.
- i) National Grid's monthly Regional Network Load (RNL) for September (MW); and the date and hour of that year's peak September RNL.
- j) National Grid's monthly Regional Network Load (RNL) for October (MW); and the date and hour of that year's peak October RNL.
- k) National Grid's monthly Regional Network Load (RNL) for November (MW); and the date and hour of that year's peak November RNL.

In Re: Commission's Review of the Benefits and Costs of Net Metering Calculation
Responses to Commission's Sixth Set of Data Requests
Issued on December 7, 2020

- 1) National Grid's monthly Regional Network Load (RNL) for December (MW); and the date and hour of that year's peak December RNL.

Response:

Please see Attachment PUC 6-2 for an Excel spreadsheet containing the requested information for the period January 2011 through November 2020.

In Re: Commission's Review of the Benefits and Costs of Net Metering Calculation
Responses to Commission's Sixth Set of Data Requests
Issued on December 7, 2020

PUC 6-2

Request:

For each year dating back to 2011, please provide a table containing columns with the following information:

- a) Annual sum of monthly billed kWh (January – December) for A16 customers.
- b) Annual sum of monthly billed kWh (January – December) for A60 customers.
- c) Annual sum of monthly billed kWh (January – December) for C06 customers.
- d) Annual sum of monthly billed kWh (January – December) for G02 customers.
- e) Annual sum of monthly billed kWh (January – December) for G32 customers.
- f) Annual sum of monthly billed kWh (January – December) for B32 customers.
- g) Annual sum of monthly billed kWh (January – December) for X01 customers.
- h) Annual sum of monthly billed kWh (January – December) for Street Lighting customers.

Response:

Please see Attachment PUC 6-2 for an Excel spreadsheet containing the requested information for the period January 2011 through November 2020.

kWh Deliveries by Rate Class

YEAR	MONTH	A-16 (a)	A-60 (b)	C-06 (c)	G-02 (d)	G-32/G-62 * (e)	B-32/B-62 (f)	X-01 (g)	SL (h)	
(1)	2011	1	274,199,780	26,616,710	51,362,834	113,957,707	196,464,723	11,757,241	1,856,614	7,436,190
(2)	2011	2	245,741,483	24,966,805	48,787,838	106,873,224	206,210,179	11,770,972	1,782,050	6,102,447
(3)	2011	3	223,954,644	20,423,012	47,081,664	105,981,446	203,834,200	10,866,393	1,961,771	5,432,393
(4)	2011	4	211,274,909	19,973,747	44,850,371	102,451,649	183,150,487	11,269,578	1,982,599	5,556,731
(5)	2011	5	185,644,352	17,963,007	40,605,322	99,832,096	202,694,779	11,830,501	1,955,628	4,064,070
(6)	2011	6	207,156,542	19,887,484	44,222,943	108,127,926	207,990,851	11,515,248	1,801,309	4,147,407
(7)	2011	7	286,570,824	26,547,460	53,654,857	125,995,048	213,255,260	12,854,462	2,098,224	4,289,372
(8)	2011	8	314,078,035	28,754,360	56,939,844	131,869,042	237,922,088	13,452,586	1,891,044	4,458,235
(9)	2011	9	264,712,445	24,795,032	51,011,447	121,574,801	213,678,321	13,454,730	1,907,401	4,945,013
(10)	2011	10	209,746,706	19,824,438	44,502,980	109,555,439	208,052,457	9,999,106	1,826,372	5,566,296
(11)	2011	11	204,588,657	20,144,200	42,943,684	101,961,445	200,291,095	7,273,131	1,954,901	6,772,423
(12)	2011	12	215,138,266	21,610,959	42,742,842	100,344,220	200,121,031	6,815,808	1,830,500	6,709,247
(13)	2011		2,842,806,643	271,507,214	568,706,626	1,328,524,043	2,473,665,471	132,859,756	22,848,413	65,479,824
(14)	2012	1	246,723,592	25,537,525	46,690,541	103,346,578	194,332,706	22,773,254	1,881,805	7,383,003
(15)	2012	2	230,074,604	24,422,072	46,617,913	103,792,417	193,029,103	8,631,783	2,000,173	5,910,835
(16)	2012	3	222,462,236	24,062,433	46,164,502	101,799,558	213,442,180	2,113,851	1,833,313	5,591,910
(17)	2012	4	203,867,279	22,039,469	44,438,451	104,303,498	198,451,701	8,780,194	1,914,019	5,324,064
(18)	2012	5	178,132,209	19,284,227	40,981,153	93,749,012	195,805,230	8,225,802	2,051,402	4,347,476
(19)	2012	6	207,878,261	21,351,794	45,645,382	110,986,294	207,963,657	9,333,319	1,935,498	3,859,461
(20)	2012	7	285,918,076	29,313,598	52,609,750	121,747,448	214,476,456	9,471,846	1,787,003	4,403,823
(21)	2012	8	333,152,043	33,466,863	59,474,307	130,801,066	237,655,304	10,109,162	2,085,777	4,443,414
(22)	2012	9	284,564,411	28,591,044	54,929,377	126,469,518	231,820,853	10,131,437	1,952,991	5,278,503
(23)	2012	10	196,985,137	20,020,433	42,320,313	100,507,719	194,670,787	9,433,639	1,855,685	5,583,373
(24)	2012	11	191,819,365	20,452,145	40,935,368	98,523,650	192,325,204	9,769,012	1,953,798	6,138,253
(25)	2012	12	236,709,146	25,673,094	47,285,647	99,171,665	193,900,616	8,610,982	1,654,207	6,675,927
(26)	2012		2,818,286,359	294,214,697	568,092,704	1,295,198,423	2,467,873,797	117,384,281	22,905,311	64,939,942
(27)	2013	1	266,073,489	28,478,816	51,039,011	103,299,152	197,157,788	8,636,973	1,945,270	7,504,431
(28)	2013	2	248,747,914	27,210,177	51,208,907	113,411,604	217,031,705	8,673,194	1,872,605	6,116,885
(29)	2013	3	226,307,488	24,687,198	48,163,340	100,446,850	194,698,815	7,542,045	1,692,846	5,232,817
(30)	2013	4	214,928,693	23,525,316	48,242,586	100,412,445	195,791,114	8,750,058	1,852,188	5,440,613
(31)	2013	5	191,141,906	20,041,910	46,130,464	100,548,316	201,462,698	8,428,992	2,017,577	4,295,980
(32)	2013	6	209,313,887	20,924,645	48,538,593	106,643,738	198,000,621	11,967,138	1,885,083	4,069,439
(33)	2013	7	307,399,693	30,115,396	56,927,578	125,380,258	232,928,603	9,742,185	1,814,922	4,093,578
(34)	2013	8	333,857,598	32,441,863	50,446,754	133,079,655	239,449,521	10,793,630	2,087,341	4,687,467
(35)	2013	9	254,088,480	24,708,010	52,051,700	118,358,382	216,826,871	10,574,318	1,970,522	4,915,985
(36)	2013	10	189,586,425	18,719,342	42,366,479	99,178,037	203,026,062	9,754,769	1,902,449	5,522,074
(37)	2013	11	191,560,880	19,653,126	40,363,087	98,176,139	191,646,535	10,186,130	1,846,398	6,064,161
(38)	2013	12	244,132,254	25,658,391	48,523,993	102,835,701	200,908,938	8,239,598	1,881,226	7,039,472
(39)	2013		2,877,138,707	296,164,190	584,002,492	1,301,770,277	2,488,929,271	113,289,030	22,768,427	64,982,902
(40)	2014	1	285,037,884	29,621,768	54,852,873	114,335,036	210,928,787	8,596,998	2,195,741	7,048,986
(41)	2014	2	252,136,556	26,331,511	52,422,219	107,171,540	212,309,709	8,586,647	1,701,483	6,382,132
(42)	2014	3	245,424,387	25,997,912	51,815,881	101,964,129	198,441,003	7,170,664	1,786,214	5,322,165
(43)	2014	4	210,121,648	22,413,208	46,088,759	98,705,038	201,212,711	8,803,921	2,027,668	4,859,305
(44)	2014	5	195,893,347	20,722,595	45,101,222	103,435,782	205,886,903	9,214,558	2,009,991	4,679,271
(45)	2014	6	188,344,151	18,568,239	44,362,201	101,229,153	195,113,759	9,803,267	2,150,872	3,605,805
(46)	2014	7	253,309,391	27,627,275	51,695,504	116,656,860	207,643,663	10,112,768	1,868,046	3,928,051
(47)	2014	8	276,242,883	28,975,206	55,434,248	122,432,650	153,767,789	9,715,974	2,037,981	4,190,348
(48)	2014	9	251,271,530	26,638,555	53,002,608	119,259,882	231,273,213	3,560,268	1,869,332	5,304,104
(49)	2014	10	195,347,982	20,622,299	44,403,633	104,204,848	256,704,936	1,421,114	2,099,334	5,670,485
(50)	2014	11	191,864,481	21,085,106	42,265,380	105,046,828	204,530,072	1,627,302	1,974,718	6,036,531
(51)	2014	12	232,935,064	25,799,279	47,807,719	107,417,420	202,866,402	974,985	2,145,782	7,005,971
(52)	2014		2,777,929,304	294,402,953	589,252,247	1,301,859,166	2,480,678,947	79,588,466	23,867,162	64,033,154
(53)	2015	1	262,763,693	28,899,123	51,736,158	106,722,023	195,242,363	599,696	1,922,981	7,443,788
(54)	2015	2	266,622,832	29,883,476	54,935,245	107,682,866	211,264,243	464,048	1,816,228	5,909,751
(55)	2015	3	241,659,816	27,814,032	53,157,643	106,023,306	200,937,103	487,832	1,752,188	5,278,686
(56)	2015	4	210,772,421	25,718,641	47,846,324	104,328,236	197,866,922	605,138	1,833,529	4,850,544
(57)	2015	5	176,386,527	20,720,191	42,171,325	96,525,702	190,549,065	897,137	2,026,489	4,525,372
(58)	2015	6	197,274,153	22,113,238	46,004,935	109,235,977	206,857,087	1,736,283	2,088,454	3,752,332
(59)	2015	7	249,858,214	27,247,004	50,877,303	116,814,448	206,353,154	1,244,936	1,922,369	3,917,710
(60)	2015	8	299,246,396	31,805,513	57,915,652	127,667,492	229,653,731	1,768,004	1,965,492	4,472,362
(61)	2015	9	300,033,647	31,832,747	57,222,864	129,734,011	230,310,815	1,790,374	2,088,151	4,985,365
(62)	2015	10	208,186,968	22,298,236	45,624,922	106,659,939	193,969,454	1,339,704	1,957,462	5,438,897
(63)	2015	11	178,424,679	20,023,613	40,532,340	94,315,077	187,321,542	1,379,573	1,958,351	5,976,945
(64)	2015	12	229,246,447	26,184,930	48,222,652	107,769,579	202,986,509	604,257	2,176,665	6,937,889
(65)	2015		2,820,475,793	314,540,744	596,247,363	1,313,478,656	2,453,311,988	12,916,982	23,508,359	63,489,641

kWh Deliveries by Rate Class

YEAR	MONTH	A-16 (a)	A-60 (b)	C-06 (c)	G-02 (d)	G-32/G-62 * (e)	B-32/B-62 (f)	X-01 (g)	SL (h)	
(66)	2016	1	242,152,785	26,888,629	48,884,544	107,598,964	192,024,399	719,459	1,878,619	7,379,873
(67)	2016	2	226,252,038	26,204,238	48,885,337	101,290,898	199,475,615	528,036	1,890,314	5,711,285
(68)	2016	3	224,723,887	20,178,858	49,518,857	106,196,954	198,691,441	746,819	1,940,779	5,412,154
(69)	2016	4	203,105,418	16,420,140	45,896,540	100,224,108	197,535,950	813,707	2,051,947	5,156,191
(70)	2016	5	172,406,306	14,026,563	40,476,709	93,924,677	180,019,594	977,669	1,887,984	2,953,889
(71)	2016	6	222,650,956	17,377,870	47,895,129	110,243,864	206,860,980	1,276,169	2,052,916	2,821,171
(72)	2016	7	276,682,977	21,035,433	54,107,969	122,799,952	209,875,142	1,954,199	2,037,817	2,997,636
(73)	2016	8	340,404,826	25,257,610	59,249,067	130,797,496	223,997,649	1,491,047	2,035,447	2,965,303
(74)	2016	9	300,557,459	22,359,260	56,897,708	128,603,649	227,780,001	1,180,064	1,931,119	3,535,294
(75)	2016	10	208,684,979	16,270,586	46,306,388	106,141,077	199,418,142	1,027,590	1,959,607	4,144,315
(76)	2016	11	191,076,089	15,217,176	41,907,532	96,570,758	186,543,182	1,416,726	1,890,091	4,268,515
(77)	2016	12	220,739,138	17,635,481	45,106,569	99,457,256	192,222,148	1,101,682	2,119,277	4,630,537
(78)	2016	2,829,436,858	238,871,844	585,132,349	1,303,849,653	2,414,444,243	13,233,167	23,675,917	51,976,163	
(79)	2017	1	252,108,043	20,779,372	52,081,155	107,697,512	198,813,670	703,207	1,829,122	5,101,139
(80)	2017	2	233,108,951	18,795,178	50,748,324	101,923,880	187,505,357	730,713	1,943,500	4,193,967
(81)	2017	3	216,966,686	17,159,044	49,350,302	103,684,327	191,183,154	745,940	1,804,590	3,744,260
(82)	2017	4	212,721,080	17,236,272	49,101,988	101,534,869	193,719,852	846,859	2,203,445	2,510,705
(83)	2017	5	181,988,443	15,059,950	45,808,020	95,569,388	181,362,102	789,781	2,096,059	(3,369,134)
(84)	2017	6	208,089,859	16,491,327	51,594,545	105,225,996	197,947,470	2,199,060	1,982,779	8,972,493
(85)	2017	7	285,718,413	21,980,550	56,322,807	121,798,204	212,104,718	1,506,417	2,012,947	4,331,961
(86)	2017	8	291,596,778	21,320,244	55,939,267	120,414,340	215,797,440	1,372,651	2,073,479	3,259,913
(87)	2017	9	248,948,082	17,851,227	52,715,042	115,953,161	202,843,468	1,416,307	2,054,627	2,989,350
(88)	2017	10	203,708,613	14,079,927	46,607,739	107,590,047	206,100,881	885,544	1,899,682	3,092,744
(89)	2017	11	207,163,272	13,588,220	46,421,318	102,566,639	189,573,082	1,908,607	2,080,524	4,484,913
(90)	2017	12	220,168,627	14,087,131	47,214,515	97,766,022	183,773,453	1,063,179	2,049,985	4,881,579
(91)	2017	2,762,286,847	208,428,442	603,905,022	1,281,724,385	2,360,724,647	14,168,265	24,030,289	44,193,890	
(92)	2018	1	289,024,326	19,324,925	59,483,294	114,009,381	210,193,292	640,614	1,871,652	13,202,486
(93)	2018	2	239,702,919	16,777,923	53,612,875	102,265,595	178,124,498	743,742	1,964,976	9,213,221
(94)	2018	3	211,615,232	15,776,740	50,221,376	100,761,788	188,851,636	1,022,040	1,896,605	3,391,718
(95)	2018	4	205,029,503	15,509,312	48,742,952	99,871,348	190,793,633	1,669,496	1,648,197	3,315,812
(96)	2018	5	197,484,232	15,088,024	48,029,027	101,169,485	185,624,773	1,082,871	2,101,865	2,726,766
(97)	2018	6	198,396,581	14,500,702	48,486,279	106,468,903	196,560,441	1,278,207	2,058,609	2,729,968
(98)	2018	7	294,400,480	21,774,141	57,762,374	121,306,037	202,445,965	1,537,345	1,963,397	2,581,603
(99)	2018	8	327,617,379	23,393,927	60,454,401	126,491,466	220,697,098	1,441,177	2,071,594	2,596,057
(100)	2018	9	324,170,041	23,634,482	61,646,371	127,684,248	228,805,281	1,766,839	1,947,751	3,516,990
(101)	2018	10	207,193,514	15,043,967	47,704,210	103,675,533	200,079,949	2,521,339	1,977,738	3,508,652
(102)	2018	11	196,376,207	14,556,400	45,465,247	94,254,171	181,447,396	717,078	2,001,434	3,843,680
(103)	2018	12	229,979,597	17,475,435	53,268,363	101,912,092	194,424,902	3,530,075	1,980,845	3,514,745
(104)	2018	2,920,990,011	212,855,978	634,876,769	1,299,870,047	2,378,048,864	17,950,823	23,484,663	54,141,708	
(105)	2019	1	256,031,453	19,032,120	57,116,228	107,762,747	191,679,887	339,853	1,938,082	4,048,163
(106)	2019	2	240,272,343	19,178,858	57,226,826	101,822,990	175,365,850	412,399	1,877,886	10,883,029
(107)	2019	3	219,736,184	18,355,960	56,132,333	101,174,693	189,714,874	988,737	1,855,729	3,608,125
(108)	2019	4	183,753,979	15,649,880	52,774,351	94,668,173	198,390,457	1,366,255	1,907,341	3,099,428
(109)	2019	5	185,764,185	15,401,111	50,210,604	98,788,856	176,486,063	991,650	2,105,713	2,611,252
(110)	2019	6	191,785,656	15,247,635	52,858,660	99,241,600	181,538,276	1,826,495	2,148,851	2,485,539
(111)	2019	7	270,542,849	20,211,493	58,577,152	115,086,239	210,768,038	928,112	1,880,909	2,712,580
(112)	2019	8	344,045,731	25,407,523	68,071,301	132,150,035	229,193,631	1,421,708	2,162,654	2,911,276
(113)	2019	9	261,815,047	18,833,878	59,479,002	115,103,865	203,364,189	1,295,722	2,044,647	3,058,398
(114)	2019	10	185,762,701	13,864,421	50,199,478	99,469,750	180,028,050	965,051	2,058,508	605,254
(115)	2019	11	176,457,939	13,701,980	45,663,614	90,847,607	184,306,877	910,544	1,919,069	6,085,178
(116)	2019	12	218,680,024	17,303,240	52,483,273	100,320,108	186,187,830	1,641,965	1,882,372	3,229,324
(117)	2019	2,734,648,091	212,188,099	660,792,822	1,256,436,663	2,307,024,022	13,088,491	23,781,761	45,337,546	
(118)	2020	1	262,620,380	19,548,134	61,534,981	114,468,573	84,830,332	811,350	2,170,306	6,215,504
(119)	2020	2	206,990,343	16,158,060	53,902,635	98,574,412	204,374,695	568,806	2,181,537	3,672,650
(120)	2020	3	202,833,419	16,532,919	55,649,222	97,883,566	197,985,464	535,701	2,344,364	3,017,926
(121)	2020	4	205,593,448	16,772,046	50,309,117	90,268,378	192,609,707	545,943	1,382,797	5,384,169
(122)	2020	5	201,016,204	16,426,723	47,525,067	80,854,270	182,242,996	832,633	473,155	2,862,459
(123)	2020	6	210,448,899	16,372,521	48,592,143	87,178,918	183,452,142	745,792	476,935	2,765,974
(124)	2020	7	316,255,729	23,097,518	59,189,208	107,114,514	193,762,962	1,505,548	909,345	1,584,710
(125)	2020	8	382,026,612	29,029,822	66,084,617	124,902,250	200,899,832	1,241,182	871,016	2,393,154
(126)	2020	9	266,952,054	19,862,580	56,337,542	103,537,158	187,228,982	663,320	862,206	2,438,433
(127)	2020	10	206,584,212	14,626,519	53,398,996	98,229,432	177,818,359	1,866,971	1,122,182	4,592,676
(128)	2020	11	198,500,947	14,668,071	45,324,036	84,875,228	164,658,697	1,696,601	1,176,896	4,071,678
(129)	2020	12								
(130)	2020 YTD	2,659,822,247	203,094,913	597,847,564	1,087,886,699	1,969,864,168	11,013,847	13,970,739	38,999,333	

* Effective September 1, 2018 rate classes B-32 and B-62 and G-32 and G-62 were combined and customers on G-62 were moved to G-32. There were no customers on B-62 at the time. kWh displayed prior to September 2018 include rates B-62 and G-62.

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Issued on December 7, 2020

PUC 6-3

Request:

With regards to National Grid’s class average load shape methodology detailed in PUC 5-2 (Docket No. 5010), please explain the following:

- a) For a given rate class, how does National Grid group customers into the 3-5 strata from which customers are randomly sampled? What do the strata correspond to: seasonal peaking characteristics (summer vs. winter)? Total annual consumption? Monthly consumption? Something else?
- b) In response to PUC 5-2, National Grid described a process of “random sampling” through which it selects sample customer sites from each stratum, off which to base its class average load shape. Please clarify what happens to customers who are randomly selected. How does National Grid actually construct the 8760 hourly load shape for those customers, using what real billing data?
- c) For each rate class where National Grid models a class average load shape, please provide the specific number (or range) of customers who are randomly selected across all strata to construct the class average load shape.

Response:

- a) National Grid uses annual usage to group customers into strata.
- b) National Grid bases its class average load shapes on sample customer interval data and monthly class level billed sales. National Grid’s process weights each sample customer’s interval data, using stratum-level weighting factors. Monthly class level billed sales include the count of billed customers and their total billed kWh.
- c) Please see the following table:

Rate Class	Sample Customers Selected Across All Strata
A16	282
C06	270
G02	337

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PUC 6-4

Request:

National Grid has historically accounted for avoided Marginal Distribution Cost (MDC) in its annual Energy Efficiency plan (filed in Table E-6). For each of the five most recent annual Energy Efficiency plans (or more, if practicable), please provide a table with the following information:

1. the MDC rate (\$/kW) used to calculate the total avoided MDC value.
2. an explanation of how National Grid estimated that MDC rate, using what data.

Response:

The table below shows the MDC rate (\$/kW) used in each of the annual Energy Efficiency plans from 2016 – 2020.

Energy Efficiency Plan Year	MDC (\$/kW)
2020	\$80.24
2019	\$80.24
2018	\$79.82
2017	\$73.87
2016	\$73.87

Electric distribution capacity benefits (referred to here as avoided MDC) are valued in the Company’s energy efficiency plans by using avoided distribution capacity values calculated in a spreadsheet tool that was developed in 2005 by ICF International, Inc., updated with recommendations from AESC (Avoided Energy Supply Components in New England) studies. The Company uses the spreadsheet tool to calculate an annualized value of statewide avoided distribution capacity values from Company-specific inputs of historic and projected capital expenditures and loads, as well as a carrying charge calculated from applicable tax rates and Federal Energy Regulatory Commission (FERC) Form 1 accounting data. The Company calculated its values as follows: the 2019-2020 plans used 2018 AESC Studies; the 2018 plan used 2015 AESC study data with an updated methodology; and the 2016-2017 plans used 2015 AESC study with the older methodology.

In Re: Commission's Review of the Benefits and Costs of Net Metering Calculation
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PUC 6-5

Request:

With regards to the five most recent Electric ISR Plan years, please explain the following:

- a) For each of the five most recent Plan years, how much annual investment (\$) in Load Relief projects (a sub-category of capital spending) was approved by the Commission?
- b) For each of the five most recent Plan years, what was the total MW capacity of load relief associated with the Load Relief projects approved by the Commission? Please explain the methodology you use to estimate this load relief capacity.
- c) In any given Plan year, National Grid gets approval to invest in Load Relief projects; those Load Relief projects may be located throughout the distribution system and are located on specific distribution system assets (e.g. feeders and substations). For each of the five most recent Plan years, what percentage (%) did the specific distribution system assets on which the approved Load Relief investments were to be located represent of total distribution system peak demand (in that year)? Please provide a table with your responses for each of the ISR Plan years.
- d) The approved Load Relief investments in an annual ISR Plan represent potential spending over a multi-year time horizon; actual spending on Load Relief projects in a given year gets recovered from customers through the CapEx factor. Please explain how National Grid determines actual spending on Load Relief projects in a given year. In other words, how does National Grid amortize the approved Load Relief project expenditures from previous years' ISR Plans in order to arrive at an actual Load Relief revenue requirement for a given year?
- e) Please provide a table showing Commission-approved Load Relief project spending from each of the last five ISR Plan years, and the actual Load Relief expenditures that get recovered from customers in the corresponding rate period through the CapEx factor. Please specify what time periods (months and years) each response corresponds to.

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Response:

- a) Load Relief projects are generally large projects that span multiple years. Project spending usually occurs before projects are placed in service. Spending and plant in service investments often vary by year. The Company defines “investment” as plant in service, which is the accumulated cost related to the assets that are used or useful and the Company uses plant in service when developing a revenue requirement. In addition, when categorizing projects for purposes of the ISR, the Company uses the primary driver of a project for categorization, but many Load Relief projects also support other categories, such as Asset Condition. The Company classifies costs based on the primary driver; therefore, the costs shown below are those associated with all drivers, and not only Load Relief. Thus, the amounts of Load Relief projects invested in plant in service for each of the five years is:

	Load Relief Category Plant in Service (in \$ Thousands) rounded to \$100,000				
	Fiscal Year 2020	Fiscal Year 2019	Fiscal Year 2018	Fiscal Year 2017	Fiscal Year 2016
Plant in Service	\$29,300	\$27,200	\$7,800	\$23,000	\$9,900

- b) The MW capacity of load relief provided by a Load Relief project can be viewed and quantified in various ways. For purposes of this response, the Company reviewed the Load Relief projects at the substation transformer level and listed the amount of new capacity added to the system as part of these projects. In other words, the MW capacity of load relief was calculated based upon either the introduction of a brand-new transformer or upgrading an existing transformer with a larger size. This does not mean that this full capacity is readily available and can be utilized at this time as more work may be required in order to use that capacity. For example, a Load Relief project may introduce a brand-new transformer (not a replacement) that is rated for 50MVA of load, but the project only includes installing two new distribution feeders at this time (~20MW). There is an available ~30MW on this transformer but new projects would be required to build the feeders to utilize this capacity with associated project costs. For the purposes of this data request, the Company would state this project resulted in 50MW of load relief.

The following table summarizes MW capacity created from Load Relief projects that had plant in service investments in the past five years as compared to the peak MW for the associated year that such projects were placed in service.

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	FY20	FY19	FY18	FY17	FY16
MW Capacity created	64	27	71	111	3
MW Peak	1,855	1,750	1,847	1,688	1,803
Percent	3.46%	1.56%	3.84%	6.55%	0.15%

As noted above, there are a number of important caveats regarding the Company’s provision of data about Load Relief projects, here. Such as:

- The Company does not track or compare its investments in Load Relief projects and corresponding effect on available capacity on a year-by-year basis, as posed by this question.
- For an overview, this response compares the investments and capacity created by Load Relief projects at the substation transformer level, without factoring in any associated infrastructure (e.g. substation improvements or installation of distribution lines) that also may be needed to fully use the additional capacity. Including any additional, resulting investments in this answer would require a more detailed analysis by the Company.
- Most large Load Relief projects have individual components that go into service over different years. For the purposes of this response to a data request, the Company used the date the last portion of the Load Relief project went into service for identifying the MW peak year.
- The projects reviewed could have associated projects not included in this list that were required in order for these projects to occur. In other words, there could be additional costs not included in the Load Relief or System Capacity category in the Plan associated with this capacity relief at other substations and/or feeders.
- The costs provided include all issues that a project is addressing, not load relief alone. Projects can address a variety of issues and very rarely are there only load relief issues. The additional types of issues these projects could address include but are not limited to: asset condition issues, reliability issues, and operational or worker safety concerns.

c) Please see the table provided in response to subpart (b), above.

d) For purposes of determining the revenue requirement in developing the CapEx Factor, plant in service, or “investment”, not actual capital spending is used. Therefore, recovery would not commence until the year plant is placed in service using associated investment amounts and would occur over the life of the assets, regardless of when the spending occurred.

In Re: Commission's Review of the Benefits and Costs of Net Metering Calculation
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- e) Please refer to Attachment PUC 6-5. Page 1 shows the revenue requirement by Fiscal Year (FY) on the Load Relief-related investments placed into service during FYs 2016 through 2020 as noted in part (b), totaling \$6.5 million. Page 2 provides a calculation to support the amount of property tax recovery shown on Page 1, Line 16. Please note that the Attachment reflects the revenue requirement collected through CapEx factors as requested, which applies to ISR capital investment incremental to the level of capital investment assumed in distribution base rates. Therefore, using capital investments placed into service during FY 2016 as an example, Attachment PUC 6-5 shows no associated revenue requirement through CapEx factors from September 1, 2018 and forward, as that was the effective date of the Company's most recently approved distribution rate plan.

The Narragansett Electric Company
d/b/a National Grid
Electric Infrastructure, Safety, and Reliability (ISR) Plan - Load Relief-related Capital Investment
Annual Revenue Requirement Summary
(\$000s)

Line No.	Plant In-Service Year (aka Vintage Year):	Investment Amount (a)	Revenue Requirement Amount /Year					Total (h)	
			FY 2016 (b)	FY 2017 (c)	FY 2018 (d)	FY 2019 (e)	FY 2019 (f)		FY 2020 (g)
			Apr - Aug (5 mos)		Sept-Mar (7 mos)				
Total ISR capital investment:									
1	FY 2016 ISR capital investment	\$72,003	\$2,006	\$3,933	\$3,704	\$1,396			
2	FY 2017 ISR capital investment	\$75,489		\$1,875	\$3,595	\$1,356			
3	FY 2018 ISR capital investment	\$92,660			\$3,287	\$2,495	\$1,280	\$2,113	
4	FY 2019 ISR capital investment	\$111,243				\$1,916	\$1,555	\$4,443	
5	FY 2020 ISR capital investment	\$103,268						\$2,529	
6	FY 2016 Return, tax and depreciation %		2.79%	5.46%	5.14%	1.94%			
7	FY 2017 Return, tax and depreciation %			2.48%	4.76%	1.80%			
8	FY 2018 Return, tax and depreciation %				3.55%	2.69%	1.38%	2.28%	
9	FY 2019 Return, tax and depreciation %					1.72%	1.40%	3.99%	
10	FY 2020 Return, tax and depreciation %							2.45%	
Load Relief-related capital investment:									
11	FY 2016 Load Relief capital investment	\$4,368	\$122	\$239	\$225	\$85		\$670	
12	FY 2017 Load Relief capital investment	\$21,711		\$539	\$1,034	\$390		\$1,963	
13	FY 2018 Load Relief capital investment	\$5,947			\$211	\$160	\$82	\$136	
14	FY 2019 Load Relief capital investment	\$25,723				\$443	\$359	\$1,027	
15	FY 2020 Load Relief capital investment	\$28,592					\$700	\$700	
16	Property tax allowance		\$50	\$94	\$27	\$115	\$128	\$305	
17	Total Fiscal Year revenue requirement		\$172	\$872	\$1,496	\$1,193	\$570	\$2,168	
								\$6,470	

Column Note:
(h) Sum of Col (c) through Col (g)

Line Notes:
1 Docket 4915 FY 2020 ISR Reconciliation, Att. MAL-2 Compliance: (a) = P 13, L 5; (b)-(d) = P 13, L 37; (e) = P 13, L 38; (f) (g), rolled into base rates
2 Docket 4915 FY 2020 ISR Reconciliation, Att. MAL-2 Compliance: (a) = P 10, L 3; (c)-(d) = P 10, L 34; (e) = P 10, L 35; (f) (g), rolled into base rates
3 Docket 4915 FY 2020 ISR Reconciliation, Att. MAL-2 Compliance: (a) = P 7, L 3; (d) = P 7, L 34; (e) = P 7, L 35; (f) (g) = MAL-1 C, P3, L35(b), L34(c)
4 Docket 4915 FY 2020 ISR Reconciliation, Att. MAL-2 Compliance: (a) = P 2, L 3 + P5, L5(c); (e) = P 2, L 35; (f) (g) = MAL-1 C, P6, L 34
5 Docket 4915 FY 2020 ISR Reconciliation, Att. MAL-1 Compliance: (a) = P 15, L 1(c); (f) = P 11, L 35
6 L 1(b) ~ (g) / L 1(a)
7 L 2(b) ~ (g) / L 2(a)
8 L 3(b) ~ (g) / L 3(a)
9 L 4(b) ~ (g) / L 4(a)
10 L 5(b) ~ (g) / L 5(a)
11(a)-15(a) Per Company's response to PUC 6-5 part (b)
11(b)-(g) 11(a)×L6
12(b)-(g) 12(a)×L7
13(b)-(g) 13(a)×L8
14(b)-(g) 14(a)×L9
15(b)-(g) 15(a)×L10
16 Page 2 of 2
17 Sum of Lines 11 through 16

The Narragansett Electric Company
d/b/a National Grid
Electric Infrastructure, Safety, and Reliability (ISR) Plan - Load Relief-related Capital Investment
Annual Revenue Requirement Summary - Property Tax Recovery Mechanism
(\$000s)

Line No.	Investment	Revenue Requirement Amount / Year						Total
		FY 2016	FY 2017	FY 2018	FY 2019	FY 2019	FY 2020	
	Amount				Apr - Aug (5 mos)	Sept-Mar (7 mos)		
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
Property Tax Recovery on total ISR capital investment:								
1	FY 2014 Net Plant Additions		\$2	\$2	\$2	\$1		
2	FY 2015 Net Plant Additions		\$38	\$36	\$34	\$32		
3	FY 2016 Net Plant Additions	\$72,003	\$36	\$35	\$34	\$32		
4	FY 2017 Net Plant Additions	\$75,489		\$39	\$38	\$37		
5	FY 2018 Net Plant Additions	\$92,660			\$58	\$56	\$18	\$18
6	FY 2019 Net Plant Additions	\$111,243				\$75	\$36	\$34
7	FY 2020 Net Plant Additions	\$103,268						\$82
8	Total Net Plant Additions for Property Tax		\$77	\$113	\$166	\$233	\$54	\$133
9	FY 2016 Net Plant %		47.35%	31.09%	20.21%	13.77%	0.00%	0.00%
10	FY 2017 Net Plant %			34.98%	23.03%	15.89%	0.00%	0.00%
11	FY 2018 Net Plant %				35.14%	23.96%	34.13%	13.26%
12	FY 2019 Net Plant %					31.98%	65.87%	25.24%
13	FY 2010 Net Plant %							61.51%
14	Property Tax Recovery Adjustment		\$1,740	\$787	\$263	\$800	\$736	\$1,284
Property Tax Recovery on Load Relief Investment:								
15	FY 2016 Load Relief capital investment	\$4,368	\$50	\$15	\$3	\$7	\$0	\$0
16	FY 2017 Load Relief capital investment	\$21,711		\$79	\$17	\$37	\$0	\$133
17	FY 2018 Load Relief capital investment	\$5,947			\$6	\$12	\$16	\$45
18	FY 2019 Load Relief capital investment	\$25,723				\$59	\$112	\$75
19	FY 2020 Load Relief capital investment	\$28,592						\$219
20	Total Fiscal Year Property Tax Recovery on Load Relief-related Investment		\$50	\$94	\$27	\$115	\$128	\$305
								\$718

Column Notes:

Per Docket 4915 FY 2020 ISR Reconciliation, Att. MAL-1 Compliance and Att. MAL-2 Compliance:

- (b) Line 1 ~3, MAL-2, P30, Col (j), Lines 29 through 31
- (c) Line 1 ~4, MAL-2, P31, Col (a), Lines 67 through 70
- (d) Line 1 ~5, MAL-2, P31, Col (g), Lines 67 through 71
- (e) Line 1 ~6, MAL-2, P31, Col (k), Lines 67 through 72
- (f) Line 5~6, MAL-1, P21, Col (a), Lines 40 through 41
- (g) Line 5~7, MAL-1, P21, Col (e), Lines 40 through 42
- (h) Sum of Col (c) through Col (g)

Line Notes:

- 3 MAL-2: (a) = P 13, L 5
- 4 MAL-2 Compliance: (a) = P 10, L 3
- 5 MAL-2 Compliance: (a) = P 7, L 3
- 6 MAL-2 Compliance: (a) = P 2, L 3 + P5, L5(c)
- 7 MAL-1 Compliance: (a) = P 15, L 1(c)
- 8 Sum of Lines 3 through 7
- 9 L 3 / L 8
- 10 L 4 / L 8
- 11 L 5 / L 8
- 12 L 6 / L 8
- 13 L 7 / L 8
- 14 MAL-1, (b) = P 30, L 32(k); (c) (d) = P31, L 74(c), 74(g); (e) (f) = MAL-1, P 2, L15(b), L 15 (c); (g) = MAL-1, P1, L9(b)